
Replacing an NT7D10 PDU with an NT7D67CB PDU

Use this procedure to replace an NT7D10 PDU with an NT7D67CB PDU in DC-powered systems.

Note 1: The NT7D67CB PDU replaces the NT7D10 PDU. However, both PDUs can be used in a system.

Note 2: Conduit is not required with the NT7D67CB PDU but can be used.

Before you begin this procedure, prepare for the installation:

- Additional wire may be required (see Step 1).
- An electric drill, fitted with a .234-in. metal bit must be available.
- A Rear Mount Conduit Kit (NT7D0902) must be available.

WARNING

Module covers are *not* hinged; do not let go of the cover. Lift the cover away from the module and set it out of your work area.

Removing equipment

- 1 Check the length of existing wire to the PDU. Due to the location of the field wiring terminal block on the NT7D67CB PDU, 6 to 9 inches more length is required to reach its terminals than is required to reach those on the NT7D10 PDU.

Note 1: The existing service loop where wire enters the pedestal may have enough excess length or enough slack wire may exist in the conduit path from the power plant to allow pulling a sufficient amount through to the pedestal. [Figure 42](#), located further on in this procedure, shows the location on the NT7D67CB PDU to which wiring must extend. If existing wiring will not reach, replace the entire wire run from the power plant. Do *not* splice short pieces of wire onto the end of existing wiring.

Note 2: If a QCAD321 or an NT6D53 junction box is installed on the power feed to the console, the wiring from the power plant may have to be altered as follows:

- If five #4 AWG wires are run from the power plant to the junction box (two BAT, two RTN, and one LRTN), then the junction box must *not* be used. The junction box must be removed and the entire wire run from the power plant to the pedestal must be replaced. Do *not* splice short pieces of wire onto the end of existing wiring.
- If nine #4 AWG wires are run from the power plant to the junction box (four BAT, four RTN, and one LRTN), then the junction box can be used. However, the #10 AWG wires from the junction box to the pedestal may have to be replaced to provide sufficient length. Do *not* splice short pieces of wire onto the end of existing wiring.

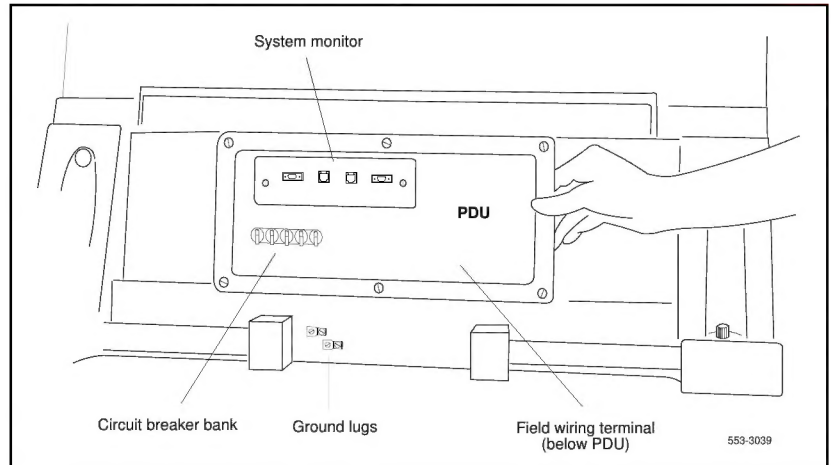
- 2 Disconnect DC power at the source (not at the PDU).

CAUTION

Before performing these procedures, disconnect the power at the source; simply turning off the circuit breakers does not shut off power to the system monitor.

- 3 Remove the grill on the rear of the pedestal.
- 4 Set all five circuit breakers on the PDU to OFF (down). **Figure 38** shows the NT7D10 PDU in the rear of the pedestal.

Figure 38
NT7D10 Power Distribution Unit DC



- 5 Unseat the blower unit in the front of the pedestal:
 - Remove the grill on the front of the pedestal. Set the toggle switch on the front of the unit to OFF (left).
 - Turn the screws on the front of the unit counterclockwise and pull the unit out several inches so the connector on the rear disengages.

WARNING

The unit is heavy and the blades on the blower may still be rotating up to 2 minutes after the power is turned off.

- 6 Disconnect cables to the module above the pedestal (module 0):
 - Remove the rear cover on the module.
 - Remove the I/O safety panel over the backplane in the module.
 - Disconnect the system monitor ribbon cable from the PDU and from the module and set it aside for reconnection with the replacement NT7D67CB PDU.
 - Disconnect the large orange power connector (J1) from the PDU.

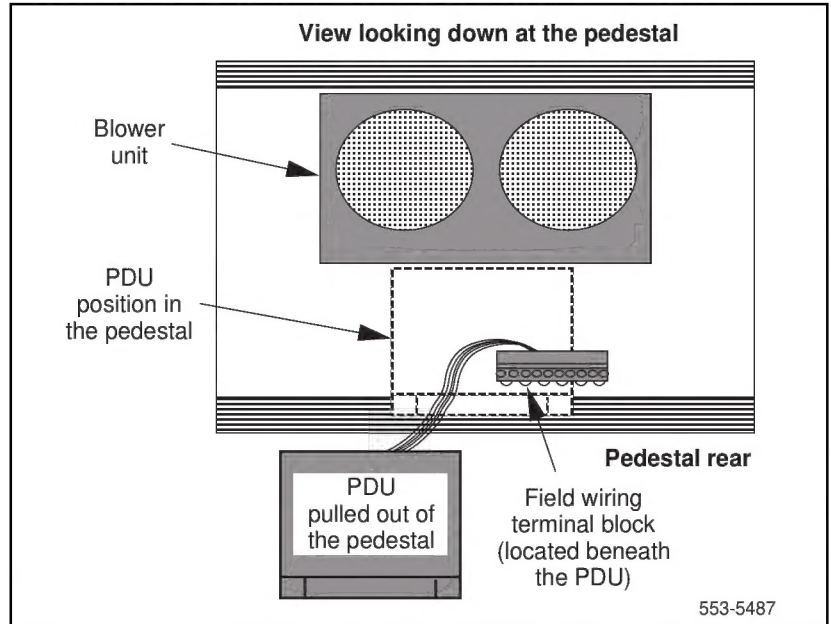
Note: To disconnect the power plug, you must press a latch trip on the front and rear of the plug. You may need to use a screwdriver blade against the latch trip on the front of the plug.

- 7 Tag and disconnect cables to the NT8D22 System Monitor card. Loosen the two screws on the card faceplate and remove it.
- 8 Remove the six screws that position the NT7D10 PDU. Carefully pull the unit straight out and set it on the floor next to the pedestal (see [Figure 39](#)).

CAUTION

The PDU cannot be completely removed from the pedestal until wires to the field wiring terminal block are disconnected. Label wires carefully. Improper wiring can cause system damage.

Figure 39
Cabling between the PDU and the field wiring terminal block



- 9 Tag and then disconnect all wiring to the field wiring terminal block.
- 10 Locate the frame ground wire from the field wiring terminal block to the frame ground bolt inside the pedestal. Disconnect this wire at the ground bolt.
- 11 Remove the field wiring terminal block:
 - Remove the cover over the terminal block.
 - Remove the four screws that secure the terminal block and lift it out of the pedestal.
- 12 Move the NT7D10 PDU out of the work area.

Installing equipment

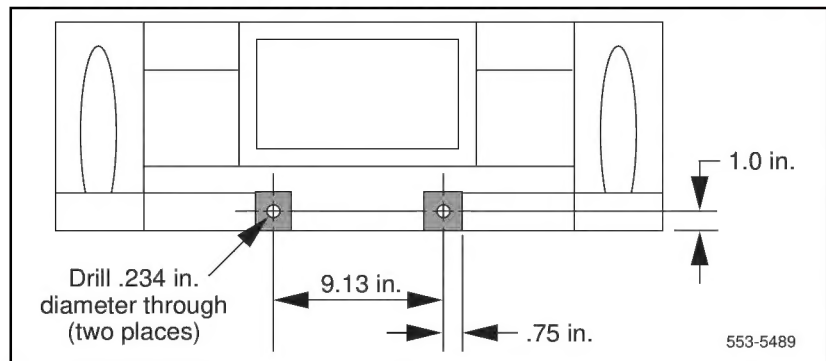
WARNING

The NT7D67CB PDU is much heavier than the NT7D10 PDU.

Note: The conduit attachment plate provided in the NT7D0902 Rear Mount Conduit Kit must be installed as a safety cover and to restrain wiring to the terminal block.

- 1 Drill two .234-in. screw holes in the rear of the pedestal (see [Figure 40](#)). The holes will be used to install the conduit attachment plate.

Figure 40
Dimensions for drilling holes on the pedestal

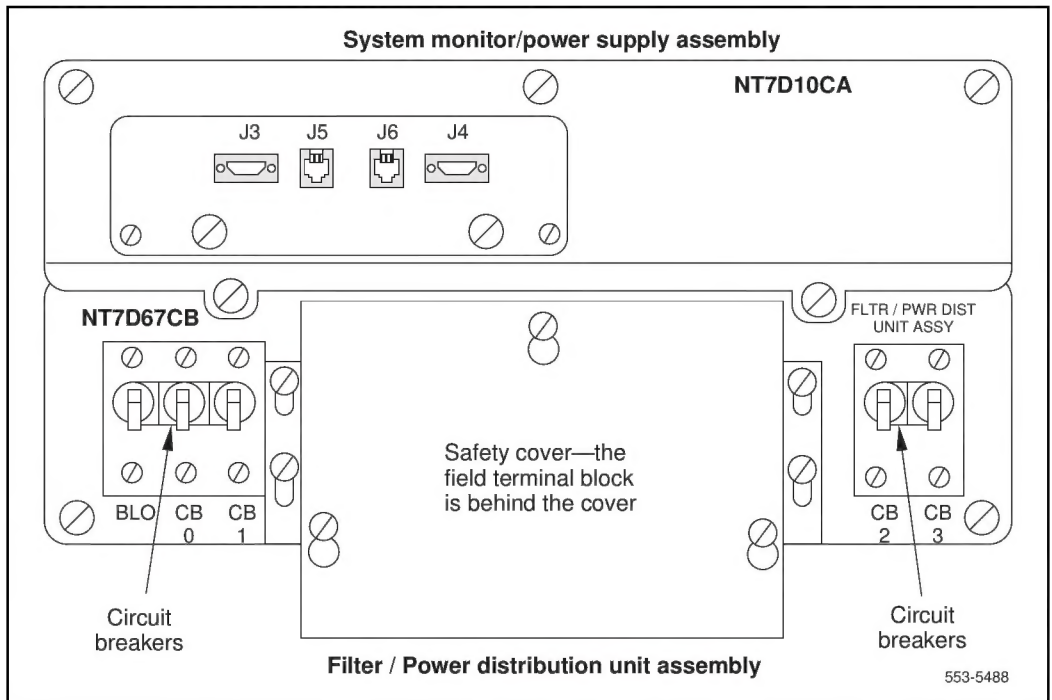


- 2 Place the NT7D67CB PDU next to the pedestal.

Figure 41 shows the PDU (labeled FLTR/PWR DIST UNIT ASSY on the equipment) and the NT7D10CA System Monitor/Power Supply Assembly (labeled XSM/PWR SUPPLY ASSY on the equipment).

Note: The NT7D09CA Pedestal has a brace that supports a leveling bracket on the rear of the PDU. There is no room for the leveling bracket in the NT7D09AA Pedestal, so the bracket must be removed before the PDU is installed.

Figure 41
NT7D67CB Power Distribution Unit DC



- 3 Remove the two screws that secure the leveling bracket on the rear of the PDU. Reinstall the screws to hold the rear cover on the PDU in place.

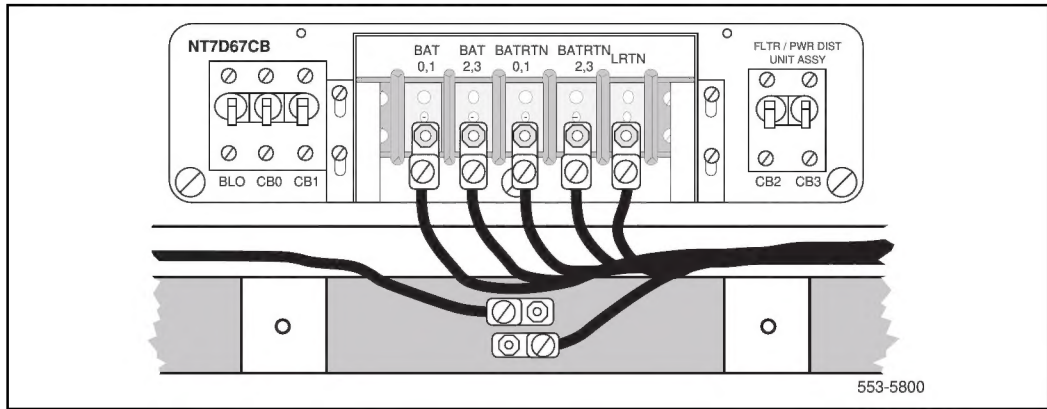
WARNING

You should support the PDU as far into the pedestal as you can without letting it drop to the bottom of the pedestal, but watch your hands! It becomes more difficult to support the PDU the further into the pedestal it is inserted. The PDU is held in its proper position only when the mounting screws on its faceplate are tightened.

- 4** Install the NT7D67CB PDU:
 - Connect the green frame ground wire from the PDU to the frame ground bolt inside the pedestal.
 - Guide the power cable connector through the hole in the top of the pedestal. Set the PDU in the pedestal and tighten the three screws that secure it to the pedestal.
- 5** Install the NT7D10CA system monitor assembly:
 - Connect the small orange connectors (J2 on the PDU, P2 on the system monitor assembly) on the left side of the PDU.
 - Connect the flat white connector to the small circuit board (P1 on the PDU, J1 on the system monitor assembly) on the right side of the PDU.
 - Connect the ribbon cable (set aside when the NT7D10 PDU was removed) to the system monitor (J2). Guide the connector on the other end of the cable through the hole in the top of the pedestal and connect it to module 0.
 - Gently push the system monitor assembly into the pedestal.
- 6** Tighten the screws that secure the system monitor assembly.
- 7** Reconnect the cables from module 0:
 - Reconnect the large orange power connector (J1).
 - Replace the I/O safety panel.
 - Replace the rear cover on the module.

- 8 Reconnect all external wiring to the terminal block on the PDU (see [Figure 42](#)):
- Remove the plastic safety cover over the terminal block.
 - Connect the red BAT (–48 V) wires:
 - for modules 0 and 1 connect to the BAT 0,1 terminal
 - for modules 2 and 3 connect to the BAT 2,3 terminal
 - Connect the black BATRTN (48 V return) wires:
 - for modules 0 and 1 connect to the BATRTN 0,1 terminal
 - for modules 2 and 3 connect to the BATRTN 2,3 terminal
 - Connect the orange (or white) wire from the ground bus/LRE in the power plant to the LRTN terminal.

Figure 42
Field wiring terminals in the NT7D67CB PDU



- 9 Position the conduit attachment plate on the rear of the pedestal (over the newly drilled holes) and secure it with two screws, nuts, and washers.
- 10 Reinstall the plastic safety cover over the terminal block.

- 11** Reseat the blower unit:
 - Lift the unit slightly and slide it into the pedestal glides. Set the toggle switch to ON (right).
 - Tighten the screws on the front of the unit.
 - Replace the front pedestal grill.
- 12** Insert the system monitor card. Tighten the screws on the card faceplate. Reconnect cables to the system monitor.
- 13** Set all five circuit breakers on the PDU to OFF (down). Reconnect the source of DC power.
- 14** One at a time, starting with the breaker for the blower unit, set the circuit breakers on the PDU to ON (up). Make sure the green LED lights on the power supply unit(s) in each module.

Note: On initial power up the blower may rotate slower than expected. As the sensor detects heat, the blower will rotate more rapidly.
- 15** Replace the rear pedestal grill.
- 16** Tag defective equipment with a description of the problem and package it for return to a repair center.

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Hardware replacement

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